Appendix A - Example of Prepublished Content Product Entity Structure Part

```
PRODUCT.C:0130808598.00.00.00
!SKU:000000014595
!ISBN:0130808598
!Title:Engineering Success
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib Last Name:Schiavone
       Contrib Affiliation:University of Alberta
!PE_ID:FE
!Status:0
!Page Count:0
!Use Actuals:1
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Version:01.00
!Pub_Med_Type:Paper
!Primary_Lang:en-US
!Publisher:Prentice Hall
!Rts_Country_Of_Origin:USA
!Rts_Dom_Print_Product:Y
!Rts_Dom_Electronic_Product:Y
!Rts Dom Custom Product:Y
!Rts_Dom_Online_Preview:Y
!Rts_Int_Print_Product:N
!Rts Int Electronic Product:N
!Rts_Int_Custom_Product:N
!Rts_Int_Online_Preview:N
!Rts_Reciprocity:N
!Rts_Attribution:Y
!Created_By:BARKER
!LastModified_By:BARKER
       FRONT_AND_BACK_ELEMENT:0130808598.01.01.00
       !Filename:0130808598.01.01.00.sgm
       !CDAOID:AABQHDG0
       !Role:TITLEGROUP
       !Title:Engineering Success
       !SGML_Char_Cnt:19
       !PE_ID:FE
       !Yr_of_Pub:1999
       !Instr_Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib_Group
               Contrib_First_Name:Peter
               Contrib Last Name:Schiavone
       ļ
       Ţ
               Contrib_Affiliation:University of Alberta
```

FRONT_AND_BACK_ELEMENT:0130808598.01.02.00 !Filename:0130808598.01.02.00.sgm !CDAOID:AABQHDH0 !Role:AUTHORGROUP !SGML_Char_Cnt:14 !Title:AuthorGroup !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib Group Contrib First Name:Peter Contrib Last Name:Schiavone Contrib_Affiliation:University of Alberta FRONT_AND BACK ELEMENT:0130808598.01.03.00 !Filename:0130808598.01.03.00.sgm !CDAOID:AABQHDI0 !Role:AFF !SGML_Char_Cnt:21 !Title:Affiliation !PE_ID:FE !Yr_of_Pub:1999 !Instr Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.01.04.00 !Filename:0130808598.01.04.00.sgm !CDAOID:AABQHDJ0 !Role:VERBATIMTOC !SGML_Char_Cnt:1833 !Title:Table of Contents !PE ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER

!Contrib Group

ļ

Contrib First Name:Peter

Contrib_Last_Name:Schiavone

Contrib_Affiliation:University of Alberta

!SKU:000000014601

CHAPTER.C:0130808598.02.00.00

!Title:Studying Engineering: The Keys to Success

!Authored_Abstract:What does it take to be successful in engineering? The good news is that we know the answer to this question: Thousands of engineering students have been doing it for years. As a freshman engineering student, your biggest advantage lies in the fact that many people have already done what you have decided to do, namely, graduate in engineering. To find out what you need to do, you need only draw from the experiences of the many successful engineering students that have gone before you. That is what this chapter (and most of this book) is about: the tried and tested techniques that will guarantee you success in engineering study.

!Authored_Abstract:The most successful engineering students exhibit common key characteristics in their approach to engineering study. The following table lists those characteristics, along with actions typically associated with each: Characteristic Actions Commitment Decide to be successful. Set appropriate goals. Stay focused. Stay determined to succeed. Continually remind yourself of the reasons you chose engineering. Application Apply yourself fully to attain your goals. Work hard. Strategy Work smart.Maximize effectiveness.Learn the rules and play the game.Perseverance Don't give up after the first, second, or third try. Keep going. Stay focused on your goals; Use power thinking!AssociationsAssociate with people that maintain a positive attitude, people that will help you attain your goals. Avoid underachievers and those who do not share your objectives.

!Authored Abstract:In the sections that follow, we discuss each of the preceding characteristics and how they will guide you to success as an engineering student.

!PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page Count:0 !Created_By:BARKER !Contrib Group

Contrib First Name:Peter Contrib Last Name:Schiavone ļ

Contrib_Affiliation:University of Alberta

FRONT_AND_BACK_ELEMENT:0130808598.02.01.00

!Filename:0130808598.02.01.00.sgm

!CDAOID:AABQHDK0

!Role:CH.BEGIN

!Index_Term:engineering, study !Index_Term:as key to success

!Index_Term:commitment

!Index Term:application

!Index Term:strategies

!Index_Term:perseverance

!Index_Term:associations

!Title:Sections/Objectives

!SGML_Char_Cnt:1979

!PE_ID:FE

!Yr_of_Pub:1999

!Instr_Only:N

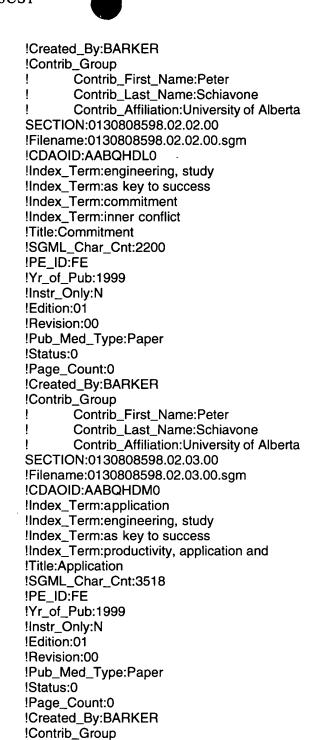
!Edition:01

!Revision:00

!Pub_Med_Type:Paper

!Status:0

!Page_Count:0



!CDAOID:AABQHDN0 !Index_Term:strategies

!Index_Term:engineering, study

SECTION:0130808598.02.04.00 !Filename:0130808598.02.04.00.sgm

Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta

!Index_Term:as key to success

!Index_Term:strategy

!Index_Term:rehearse actual test

!Index_Term:examination

!Index_Term:technique

!Index_Term:time-constrained

!Index_Term:exam anxiety

!Index_Term:anxiety

!Index_Term:exam

!Index_Term:test

!Index_Term:working smart, four hints four

!Index_Term:rules of the game

!Index_Term:instructor, what he/she assumes you know

!Index_Term:cold-start position

!Index_Term:lectures

!Index_Term:making the most of

!Index_Term:class time, making effective use

!Index_Term:textbook as a supplement

!Index_Term:effective solutions, writing to all problems

!Index_Term:solution

!Index_Term:problems, effective writing

!Index_Term:clear procedure

!Index_Term:detailed

!Index_Term:problem solving

!Index_Term:procedure for effective

!Index_Term:practice, importance of

!Index_Term:asking questions, importance of

!Index_Term:developing

!Index_Term:rehearse

!Index_Term:write

!Title:Strategy

!SGML Char Cnt:10106

!PE_ID:FE

!Yr_of_Pub:1999

!Instr_Only:N

!Edition:01

!Revision:00

!Pub_Med_Type:Paper

!Status:0

!Page_Count:0

!Created_By:BARKER

!Contrib_Group

! Contrib_First_Name:Peter

Contrib Last Name:Schiavone

Contrib Affiliation:University of Alberta

SECTION:0130808598.02.05.00

!Filename:0130808598.02.05.00.sgm

!CDAOID:AABQHDO0

!Index_Term:engineering, study

!Index_Term:as key to success

!Index_Term:perseverance

!Index_Term:power-thinking zone

!Index_Term:ingenuity, increasing with perseverance

!Title:Perseverance

!SGML_Char_Cnt:5632

!PE_ID:FE

!Yr of Pub:1999

!Instr_Only:N

!Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta SECTION:0130808598.02.06.00 !Filename:0130808598.02.06.00.sgm !CDAOID:AABQHDP0 !Index_Term:associations !Index_Term:engineering, study !Index_Term:as key to success !Title:Associations !SGML_Char_Cnt:2499 !PE_ID:FE !Yr of Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib Last Name:Schiavone Contrib_Affiliation:University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.02.07.00 !Filename:0130808598.02.07.00.sgm !CDAOID:AABQHDQ0 !Role:CH.END !Title:Problems !Index_Term:engineering, study !Index_Term:as key to success !SGML_Char_Cnt:4503 !PE ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta CHAPTER.C:0130808598.03.00.00

!SKU:000000014618

!Title:Introduction to Engineering and Engineering Study

!Authored_Abstract:&Idquo;How much do you know about engineering? Why did you choose to study engineering?What reasons lead you to believe that you are ready and equipped to study engineering?What are the main differences between studying at a university and studying in high school?What new success skills do you need to succeed in engineering study?Can you write down 10 answers to each question I have asked you? Go ahead and try."

!Authored_Abstract:This is often how I begin my lecture to freshman engineering students enrolled in an introductory engineering class. After a little thought, most of them realize just how little they know about this subject called engineering and (often despite excellent high school averages) how ill equipped they are to study engineering.

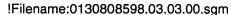
!Authored_Abstract:In this chapter, we address both issues. First, we ask the following questions:What is engineering?What do engineers do?Why choose to study engineering?

!Authored_Abstract:The answers to these questions are not only interesting and informative, but will help keep you motivated along the long, hard road to an engineering degree. Ability and hard work might get you through the initial stages, but after that, you must have a driving force, something that will sustain you through the hard times. You must develop a powerful motivation. The best way to do this is to learn as much as possible about the rewards of an engineering degree. Perhaps write them out and pin them on your wall or paste them inside your calculus book. Keep them close at hand. They will keep you determined and strong. This is exactly what the most successful engineering students do; they remain focused by keeping in mind the reasons they chose engineering and the rewards associated with entering the engineering profession. Make it a priority to keep learning about engineering, so that you will become aware of all the opportunities and rewards as they arise throughout your course of study. Thi s will fuel your motivation and your desire to succeed. The more important it becomes for you to graduate, the more likely you are to do so.

!Authored_Abstract:In , we address the question, "Are you prepared and equipped for engineering study?" In doing so, we examine the study skills required to succeed in the university environment. For many students, the university is the next logical step after high school, the next academic challenge. Consequently, they expect their freshman year in engineering to be much like another year of high school-which, of course, it isn't. In engineering, such an exception often manifests itself in unacceptably high first-year attrition rates. We address this issue by focusing on what you need to do to ensure the best possible start to earning your engineering degree. Essentially, you must develop the necessary:Work strategiesStudy strategiesAttitudesCommunication skillsAbility to work as part of a teamTime management skills

```
!PE_ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib Last_Name:Schiavone
ļ
       Contrib Affiliation:University of Alberta
       FRONT_AND_BACK_ELEMENT:0130808598.03.01.00
       !Filename:0130808598.03.01.00.sgm
       !CDAOID:AABQHDR0
       !Role:CH.BEGIN
       !Index_Term:engineering, study
       !Index_Term:introduction to
       !Index_Term:strategies
       !Index_Term:work
       !Index Term:work strategies
       !Index Term:study
       !Index_Term:study strategies
```

!Index_Term:attitudes !Index_Term:skills !Index_Term:communication !Index_Term:communications Index Term:team participation !Index_Term:time management !Title:Sections/Objectives !SGML Char Cnt:3630 !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib Last Name:Schiavone Contrib_Affiliation:University of Alberta SECTION:0130808598.03.02.00 !Filename:0130808598.03.02.00.sgm !CDAOID:AABQHDS0 !Index_Term:engineering !Index_Term:defined !Index_Term:engineering, study !Index_Term:introduction to !Index_Term:engineering, defined !Title:What Is Engineering? !SGML_Char_Cnt:2370 !AC_Counts ACFORMID:2 **NUMBERAC:1** !Associated_Component AC_PE_ID:FE AC_CDAOID:AABQHDT0 AC_Title:FIG1 AC_Image_Type:TIFF AC_Graphic_Filename:HiRes\AABQHDT0.TIF AC_Image_Role:Display AC_Authored_Abstract:None !PE_ID:FE !Yr_of_Pub:1999 !Instr Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib Affiliation:University of Alberta SECTION:0130808598.03.03.00



!CDAOID:AABQHDU0

!Index_Term:engineers

!Index_Term:role of

!Index_Term:engineering, study

!Index_Term:introduction to

!Index_Term:engineers, role of

!Index_Term:mechanical engineering

!Index_Term:engineering

!Index_Term:mechanical

!Index_Term:engineering specialization

!Index_Term:electrical engineering

!Index_Term:electrical

!Index_Term:civil engineering

!Index_Term:civil

!Index_Term:chemical engineering

!Index_Term:chemical

!Index_Term:industrial engineering

!Index_Term:industrial

!Index_Term:engineering, types of

!Index_Term:machinery

!Index_Term:devices

!Index_Term:vibrations of structures

!Index_Term:manufacturing

!Index_Term:processes

!Index_Term:energy conversion systems

!Index_Term:heating systems

!Index_Term:systems

!Index_Term:heating

!Index_Term:ventilation systems

!Index Term:ventilation

!Index_Term:air-conditioning systems

!Index_Term:air-conditioning

!Index_Term:solid mechanics

!Index_Term:fluid mechanics

!Index_Term:thermodynamics

!Index_Term:mechanical design

!Index_Term:energy

!Index_Term:cellular phones

!Index_Term:fax machines

!Index_Term:electric power engineering

!Index_Term:electric

!Index_Term:electric power

!Index_Term:communications

!Index Term:control systems

!Index_Term:digital system

!Index_Term:digital systems

!Index_Term:electronics

!Index_Term:communications engineering

!Index_Term:wires

!Index_Term:coaxial cable

!Index_Term:fiber optics

!Index_Term:radio

!Index_Term:design

!Index_Term:digital circuits

!Index_Term:digital circuits design



!Index_Term:signal processing

!Index_Term:control systems engineering

!Index_Term:control automated processes

!Index_Term:robotics

!Index_Term:oil

!Index_Term:and gas extraction

!Index_Term:aerospace

!Index_Term:industry

!Index_Term:power systems

!Index_Term:automobile manufacturing

!Index_Term:household appliances

!Index_Term:digital system engineering

!Index_Term:digital electronics

!Index_Term:digital signal processing

!Index_Term:computers

!Index Term:instrumentation

!Index_Term:circuits

!Index_Term:signals

!Index_Term:solid-state devices

!Index_Term:integrated circuits

!Index_Term:semiconductors

!Index_Term:computer aided design

!Index_Term:microwave systems

!Index_Term:personal computers

!Index_Term:personal stereo equupment

!Index_Term:airports

!Index_Term:building

!Index_Term:bridges

!Index Term:harbors

!Index_Term:highways

!Index_Term:transit systems

!Index_Term:offshore drilling platforms

!Index_Term:waste

!Index_Term:collection structures

!Index_Term:water

!Index_Term:supply facilities

!Index_Term:public works

!Index_Term:construction engineering

!Index_Term:construction

!Index_Term:environmental engineering

!Index_Term:environmental

!Index_Term:geotechnical engineering

!Index_Term:geotechnical

!Index_Term:structural engineering

!Index_Term:structural

!Index_Term:surveying

!Index_Term:transportation

!Index_Term:resources engineering

!Index_Term:water resources

!Index_Term:architects

!Index_Term:consulting engineer

!Index_Term:shopping mall

!Index_Term:financial planners

!Index Term:technicians

!Index_Term:tradespeople



!Index_Term:professional

!Index_Term:environmental problems

!Index_Term:pollution control

!Index_Term:drinking water

!Index_Term:disposal

!Index_Term:recycling waste

!Index_Term:recycling

!Index_Term:hazardous waste

!Index_Term:hazardous

!Index_Term:sewer

!Index_Term:mains

!Index_Term:garbage disposal

!Index_Term:reclamation of industrial land

!Index_Term:cleanups at sea

!Index_Term:spills

!Index_Term:earthquakes

!Index_Term:landslides

!Index_Term:groundwater seepage

!Index_Term:slopes

!Index_Term:settlement of buildings

!Index_Term:underground facilities

!Index_Term:pavements

!Index_Term:structures

!Index_Term:soils

!Index_Term:rock

!Index_Term:containment facilities

!Index_Term:high towers

!Index_Term:drilling platforms

!Index_Term:photogrammetry

!Index_Term:terrestrial

!Index_Term:terrestrial photogrammetry

!Index_Term:aerial

!Index_Term:aerial photogrammetry

!Index_Term:satellites

!Index_Term:dams

!Index_Term:tunnels

!Index_Term:surveyor

!Index_Term:ports

!Index_Term:railroads

!Index_Term:streets

!Index_Term:facilities

!Index_Term:construct

!Index Term:plan

!Index_Term:transportation engineering

!Index_Term:computer

!Index_Term:analysis

!Index_Term:mathematics

!Index_Term:hydrology

!Index_Term:hydraulics

!Index_Term:pipeline river crossings

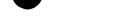
!Index_Term:road crossings

!Index_Term:development

!Index_Term:river

!Index_Term:river development

!Index_Term:harbor



!Index_Term:harbor development !Index_Term:hydroelectric power

!Index_Term:drainage

!Index_Term:irrigation

!Index_Term:wastewater collection systems

!Index_Term:distribution systems

!Index_Term:flood control

!Index_Term:water resources engineering

!Index_Term:food

!Index_Term:products

!Index_Term:electricity

!Index_Term:gas

!Index_Term:plastics

!Index_Term:materials

!Index_Term:pharmaceutical industries

!Index_Term:forestry

!Index_Term:processing

!Index_Term:petrochemical

!Index_Term:polymer engineering

!Index_Term:polymer

!Index_Term:biotechnology

!Index_Term:process control engineering

!Index_Term:process control

!Index Term:management

!Index_Term:engineering management

!Index_Term:and natural gas

!Index_Term:composites

!Index_Term:films

!Index_Term:fibres

!Index_Term:rubbers

!Index_Term:polymer molecules

!Index_Term:fertilizers

!Index_Term:molecular biology

!Index_Term:process control defined

!Index_Term:cosmetics

!Index_Term:soaps

!Index_Term:petroleum products

!Index_Term:natural gas

!Index_Term:plant design

!Index_Term:quality control

!Index_Term:cost efficiency

!Index_Term:reliability

!Index_Term:optimum performance

!Index Term:efficiency

!Index_Term:materials engineering

!Index_Term:failure analysis

!Index_Term:fracture mechanics

!Index_Term:industries

!Index_Term:automotive

!Index_Term:mineral processing

!Index_Term:aluminum smelting

!Index_Term:materials cycle

!Index_Term:steel production

!Index_Term:tribology

!Index_Term:computer engineering

!Index_Term:specialization, areas of further



!Index_Term:biomedical engineering

!Index_Term:government agencies

!Index_Term:medical device manufacturers

!Index_Term:pharmaceutical companies

!Index_Term:disposal systems

!Index_Term:drinking

!Index_Term:global

!Index_Term:environmental change

!Index_Term:treatment

!Index_Term:air quality

!Index_Term:aerospace engineering

!Index_Term:computational fluid dynamics

!Index_Term:rocket technology

!Index_Term:acoustics

!Index_Term:aviation

!Index_Term:military

!Index_Term:military aviation

!Index_Term:civil aviation

!Index_Term:nuclear engineering

!Index_Term:radioactive materials

!Index_Term:nuclear

!Index_Term:fuels

!Index_Term:power plants

!Index_Term:power

!Index_Term:mining engineering

!Index_Term:mining

!Index_Term:petroleum engineering

!Index_Term:workplace safety

!Index Term:research occupational health

!Index_Term:blasting operations

!Index_Term:soil mechanics

!Index_Term:mining equupment

!Index_Term:equupment design

!Index_Term:surface mine

!Index_Term:surface mine design

!Index Term:underground mine design

!Index_Term:underground mine

!Index_Term:geology

!Index_Term:geostatistics

!Index_Term:ore reserves

!Index Term:agriculture engineering

!Index Term:biosystems engineering

!Index_Term:production

!Index_Term:agro-ecosystem

!Index Term:manufacturing engineering

!Index_Term:ocean engineering

!Index_Term:naval architecture

!Index_Term:job classifications

!Index_Term:analytical engineer

!Index_Term:mathematical

!Index_Term:models

!Index_Term:physical prototypes

!Index_Term:experimental engineer

!Index_Term:design engineer

!Index_Term:research engineer

!Index_Term:test engineer !Index Term:engineering professor !Title:What Do Engineers Do? !SGML_Char_Cnt:31694 !PE ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter ļ Contrib_Last_Name:Schiavone ! Contrib_Affiliation:University of Alberta SECTION:0130808598.03.04.00 !Filename:0130808598.03.04.00.sgm !CDAOID:AABQHDV0 !Index_Term:engineering, study !Index_Term:reasons for studying !Title:Why Choose to Study Engineering? !SGML_Char_Cnt:4602 !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group 1 Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta SECTION:0130808598.03.05.00 !Filename:0130808598.03.05.00.sgm !CDAOID:AABQHDW0 !Index_Term:engineering, study !Index_Term:equipping yourself !Index_Term:study skills !Index_Term:strategies !Index_Term:attitudes !Index_Term:communications !Index_Term:skills !Index_Term:communication !Index_Term:team skills !Index_Term:team !Index_Term:time management !Title:Equipping Yourself for Engineering Study !SGML_Char_Cnt:8938 !PE ID:FE

!Yr_of_Pub:1999 !Instr_Only:N

!Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta SECTION:0130808598.03.06.00 !Filename:0130808598.03.06.00.sgm !CDAOID:AABQHDX0 !Index_Term:engineering, study !Index_Term:cooperative education programs !Index_Term:internships !Index_Term:advanages of !Index_Term:advantages !Title:Cooperative Education Programs (Co-ops) and Internships !SGML_Char_Cnt:3159 !PE_ID:FE !Yr_of_Pub:1999 !Instr Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib Affiliation:University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.03.07.00 !Filename:0130808598.03.07.00.sgm !CDAOID:AABQHDY0 !Role:CH.END !Title:Problems !Index_Term:engineering, study !Index_Term:introduction to !SGML_Char_Cnt:6521 !AC_Counts ACFORMID:3 **NUMBERAC:1** !Associated_Component AC_PE_ID:FE AC_CDAOID:AABQHDZ0 AC_Title:AABFWZS0 AC_Image_Type:EPS AC_Graphic_Filename:HiRes\AABQHDZ0.EPS AC_Image_Role:Display AC_Authored_Abstract:None !PE_ID:FE !Yr of Pub:1999 !Instr_Only:N !Edition:01

-17

!Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib Group Contrib_First_Name:Peter ļ Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta CHAPTER.C:0130808598.04.00.00

!SKU:000000014625

!

!Title:The Role of the University

!Authored_Abstract:Universities and colleges have always played a pivotal role in training engineers. In addition to providing the environments and opportunities necessary for learning, they continually collaborate with professional engineering organizations and engineering accreditation boards to develop engineering programs that are up to date and compatible with the ever-changing needs of modern society.

!Authored Abstract: Your decision to pursue an engineering education has committed you to spending the next four or five years learning (or training) in a university environment. Consequently, you must learn how to be most effective as an engineering student. The first step in doing so is to understand as much as possible about your learning environment, namely, its basic structure and how it works. This will ensure that you derive maximum benefit from each of the resources and facilities available as part of your engineering program.

```
!PE ID:FE
!Yr of Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub Med Type:Paper
!Status:0
!Page Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
!
!
       Contrib_Affiliation:University of Alberta
       FRONT AND BACK ELEMENT:0130808598.04.01.00
       !Filename:0130808598.04.01.00.sgm
       !CDAOID:AABQHEA0
       !Role:CH.BEGIN
       !Index_Term:university, role of
       !Title:Sections/Objectives
       !SGML_Char_Cnt:1477
       !PE ID:FE
       !Yr_of_Pub:1999
       !Instr Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib_Group
       !
              Contrib_First_Name:Peter
       !
               Contrib Last Name: Schiavone
```

Contrib_Affiliation:University of Alberta

SECTION:0130808598.04.02.00 !Filename:0130808598.04.02.00.sgm

!CDAOID:AABQHEB0

!Index_Term:university, role of

!Index_Term:class time, making effective use

!Index_Term:lectures

!Index_Term:what to expect

!Index_Term:your role in

!Index_Term:student

!Index_Term:participation

!Index_Term:active lectures

!Index_Term:tutorials

!Index Term:seminars

!Index_Term:laboratories

!Index_Term:labs

!Title:Making Effective Use of Class Time

!SGML_Char_Cnt:13927

!PE_ID:FE

!Yr_of_Pub:1999

!Instr_Only:N

!Edition:01

!Revision:00

!Pub_Med_Type:Paper

!Status:0

!Page_Count:0

!Created_By:BARKER

!Contrib_Group

! Contrib_First_Name:Peter

Contrib_Last_Name:Schiavone

Contrib_Affiliation:University of Alberta

SECTION:0130808598.04.03.00

!Filename:0130808598.04.03.00.sgm

!CDAOID:AABQHEC0

!Index_Term:professor, making effective use of

!Index_Term:university, role of

!Index_Term:teaching

!Index_Term:research

!Index_Term:service

!Index_Term:advising

!Index_Term:career counseling

!Index_Term:professional references

!Title:Making Effective Use of the Engineering Professor

!SGML Char Cnt:8012

!PE_ID:FE

!Yr_of_Pub:1999

!Instr_Only:N

!Edition:01

!Revision:00

!Pub_Med_Type:Paper

!Status:0

!Page_Count:0

!Created_By:BARKER

!Contrib_Group

! Contrib_First_Name:Peter

Contrib_Last_Name:Schiavone

! Contrib_Affiliation:University of Alberta

SECTION:0130808598.04.04.00
!Filename:0130808598.04.04.00.sgm
!CDAOID:AABQHED0
!Index_Term:liberal arts courses, importance of
!Index_Term:university, role of
!Title:Why Take Liberal Arts Courses?
!SGML_Char_Cnt:4044

!PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00

!Pub_Med_Type:Paper

!Status:0

!Page_Count:0

!Created_By:BARKER

!Contrib_Group

! Contrib_First_Name:Peter ! Contrib_Last_Name:Schiavone ! Contrib_Affiliation:University of Alberta

SECTION:0130808598.04.05.00 !Filename:0130808598.04.05.00.sgm

!CDAOID:AABQHEE0

!Index_Term:campus resources, using

!Index_Term:university, role of

!Index_Term:learning resource center !Index_Term:student counseling

!Index_Term:office of student financial aid !Index_Term:student health services

!Index_Term:career services !Index_Term:placement services

!Index_Term:campus libraries !Index_Term:libraries, campus !Title:Using Campus Resources

!SGML_Char_Cnt:3458

!PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00

!Pub_Med_Type:Paper

!Status:0

!Page_Count:0

!Created_By:BARKER

!Contrib_Group

! Contrib_First_Name:Peter! Contrib_Last_Name:Schiavone! Contrib_Affiliation:University of Alberta

FRONT_AND_BACK_ELEMENT:0130808598.04.06.00

!Filename:0130808598.04.06.00.sgm

!CDAOID:AABQHEF0

!Role:CH.END !Title:Problems

!Index_Term:university, role of

!SGML_Char_Cnt:2616

!PE_ID:FE

!Yr of Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub Med Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib Affiliation:University of Alberta

CHAPTER.C:0130808598.05.00.00

!SKU:000000014632

!Title:Learning in the University Environment

!Authored_Abstract:High schools and universities offer vastly different educational environments in terms of the way in which knowledge is delivered and the amount of independent learning that is expected. In high school, there is very little need to find things out for yourself. Teachers tell you everything you need to know to solve your problems. You learn by absorbing this information and repeating it on homework assignments and examinations.

!Authored_Abstract:At a university, your role in the learning process is much more significant. There is no longer one central source of wisdom. Instead, information has to be sought out, often from many different sources. In addition, you may have to deal with the usual imperfections in the system, such as poorly prepared and delivered lectures, confusing and uncooperative instructors, and unreadable textbooks. This means that you have to take the initiative and find out for yourself what you need to know. In other words, you are expected to

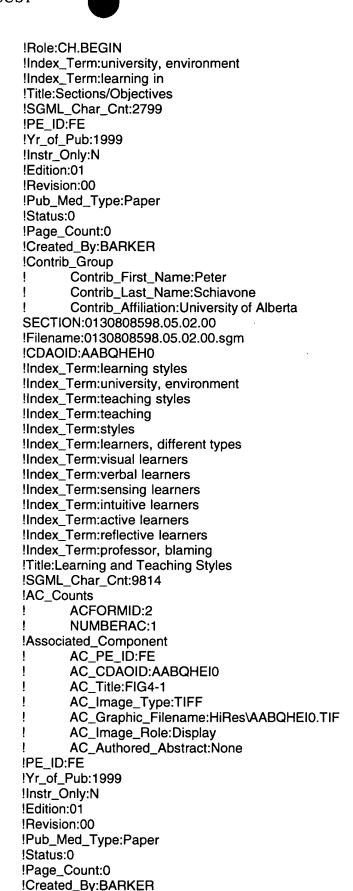
!Authored_Abstract:Take responsibility for your own learning!

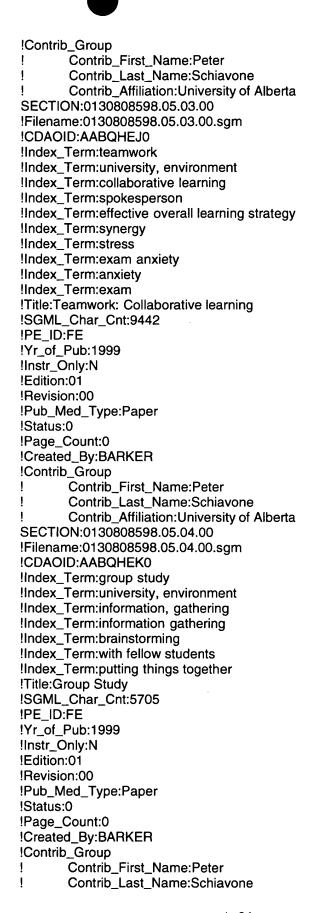
!Authored_Abstract:This is the fundamental assumption on which the postsecondary education system is based, and until you realize it, you cannot maximize your performance in engineering study.

!Authored Abstract:Most engineers are forced to become more independent in their learning after they graduate, usually on their first job, when they are faced with a collection of real-world problems, most of which are poorly defined and without any known solution. This time there are no professors to ask and no lectures or textbooks that will reveal the answer, so they learn to find the necessary information themselves. In effect they acquire the skills of thinking independently and learning independently, two of the most important skills an engineer can posses.

!Authored_Abstract:Wouldn't it be great if you could learn these skills immediately so that you can put them to use right now? This chapter will help you do just that. It will provide you with training in independent learning ahead of time, at the very beginning of your university education. This will serve not only to prepare you for life after graduation, but also to ensure that you perform at the highest level throughout your engineering education.

!PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub Med Type:Paper !Status:0 !Page_Count:0 !Created By:BARKER !Contrib_Group Contrib_First_Name:Peter Ţ Contrib_Last_Name:Schiavone ļ Contrib_Affiliation:University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.05.01.00 !Filename:0130808598.05.01.00.sqm !CDAOID:AABQHEG0







```
Contrib_Affiliation:University of Alberta
SECTION:0130808598.05.05.00
!Filename:0130808598.05.05.00.sam
!CDAOID:AABQHEL0
!Index Term:student organizations, getting involved in
!Index_Term:university, environment
!Index_Term:mechanical engineering
!Index Term:club
!Index_Term:computer engineering club
!Index_Term:computer engineering
!Index_Term:First Year Engineering Students[rsquo] Association
!Index_Term:electrical and electronic engineering club
!Index_Term:electrical and electronic engineering
!Index_Term:chemical engineering
!Index_Term:students[rsquo] club
!Index_Term:chemical engineering students[rsquo]
!Index Term:civil and environmental students[rsquo] organization
!Index_Term:American Society of Heating, Refrigerating and Air Conditioning (ASHRAE)
!Index_Term:American Society of Mechanical Engineers (ASME)
!Index_Term:Institute of Electrical and Electronic Engineers (IEEE)
!Index_Term:Society of Automotive Engineers (SAE)
!Index_Term:Institute of Transportation Engineers (ITE)
!Index_Term:Society of Petroleum Engineers (SPE)
!Index_Term:American Society of Civil Engineers (ASCE)
!Index_Term:Structural Engineers Association (SEA)
!Index_Term:Society of Manufacturing Engineers (SME)
!Index_Term:National Society of Black Engineers (NSBE)
!Index_Term:Society of Woman Engineers (SWE)
!Index_Term:American Indian Science and Engineering Society (AISES)
!Index Term:Mexican-American Engineering Society (MAES)
!Index Term:Society of Hispanic Professional Engineers (SHPE)
!Index Term:reasons for
!Title:Getting Involved in Student Organizations
!SGML_Char_Cnt:9043
!PE_ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
       Contrib_Affiliation:University of Alberta
SECTION:0130808598.05.06.00
!Filename:0130808598.05.06.00.sgm
!CDAOID:AABQHEM0
!Index_Term:engineering ethics
!Index_Term:university, environment
!Index_Term:code of student behavior
!Index Term:plagiarism
!Index Term:cheating
```

!Index_Term:confidential materials

!Index_Term:fabrication !Title:Engineering Ethics and Code of Student Behavior !SGML_Char_Cnt:6581 !PE_ID:FE !Yr_of_Pub:1999 !Instr Only:N !Edition:01 !Revision:00 !Pub Med Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib Affiliation:University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.05.07.00 !Filename:0130808598.05.07.00.sam !CDAOID:AABQHEN0 !Role:CH.END !Title:Problems !SGML_Char_Cnt:7088 !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created By:BARKER !Contrib Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta

CHAPTER.C:0130808598.06.00.00

!SKU:000000014649

!Title:Key Strategies for Maximizing Performance in Engineering Courses

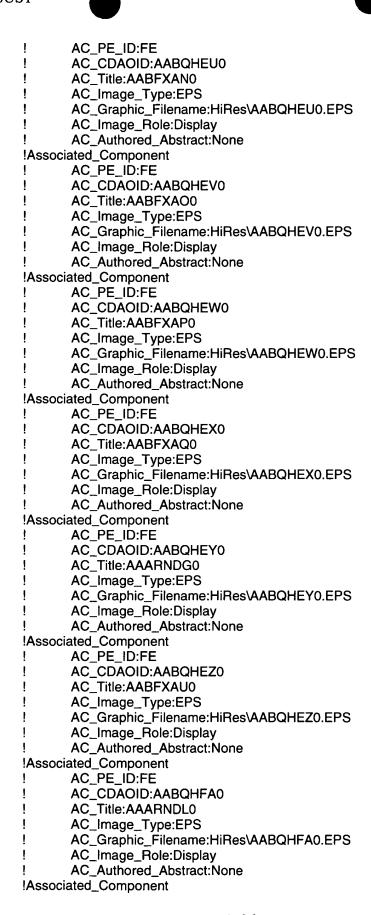
!Authored_Abstract:Over the last 10 years, I have taught many different engineering courses at various levels, from an introductory level to a more advanced graduate level. At the end of each course, I approach the most successful students and ask them to describe their study or work habits and any special techniques they may have used to achieve that particular level of success. Year after year, the same answers keep coming back. These answers indicate clearly that the most successful engineering students practice, in common, a set of key study strategies specific to engineering courses. Perhaps even more significant is the fact that almost every one of these strategies is absent from the study habits of the less successful students. This is no surprise: These same skills used to be taught as part of any basic high school curriculum. Recently, however, weaknesses in the secondary education system have meant that most freshman engineering students arrive without these skills, and very few of them take the time to acquire them for themselves. As a result, many new engineering students find it difficult to make the transition between high school and college. This almost always leads to poor performance in the first year.

!Authored_Abstract:In this chapter, we address the issue of performance and present that very collection of study strategies used by the most successful engineering students. The strategies themselves are sufficiently general to be applicable to all engineering courses at any level. In particular, we discuss:Time management strategies.Preparing for an engineering course and making sure that your

prerequisite works. Effective note taking. Making effective use of the course textbook. How to be effective on assignments. Using posted solutions to assignments. Using tutors and study guides.

```
!PE ID:FE
!Yr_of_Pub:1999
!Instr Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib Group
       Contrib First Name:Peter
ļ
       Contrib_Last_Name:Schiavone
!
       Contrib_Affiliation:University of Alberta
       FRONT AND BACK ELEMENT:0130808598.06.01.00
       !Filename:0130808598.06.01.00.sgm
       !CDAOID:AABQHEO0
       !Role:CH.BEGIN
       !Index_Term:strategies
       !Index_Term:maximizing performance
       !Title:Sections/Objectives
       !SGML_Char_Cnt:2416
       !PE_ID:FE
       !Yr_of_Pub:1999
       !Instr_Only:N
       !Edition:01
       !Revision:00
       !Pub Med Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib Group
              Contrib_First_Name:Peter
              Contrib_Last_Name:Schiavone
              Contrib Affiliation:University of Alberta
       SECTION:0130808598.06.02.00
       !Filename:0130808598.06.02.00.sgm
       !CDAOID:AABQHEP0
       !Index_Term:strategies
       !Index_Term:maximizing performance
       !Index Term:time management
       !Index_Term:prioritize
       !Index Term:commitment
       !Index Term:commitments
       !Index_Term:study time
       !Index_Term:entertainment, leisure, recreation
       !Index Term:schedule, make a
       !Index_Term:weekly planner
       !Index_Term:list making
       !Title:Time Management Strategies
       !SGML_Char_Cnt:11182
       !AC_Counts
              ACFORMID:2
              NUMBERAC:2
       !Associated_Component
```

```
ļ
       AC_PE_ID:FE
       AC_CDAOID:AABQHEQ0
ļ
       AC_Title:FIG51
       AC_Image_Type:TIFF
       AC_Graphic_Filename:HiRes\AABQHEQ0.TIF
       AC_Image_Role:Display
       AC_Authored_Abstract:None
!Associated_Component
       AC_PE_ID:FE
       AC_CDAOID:AABQHER0
       AC_Title:FIG52
       AC_image_Type:TIFF
       AC_Graphic_Filename:HiRes\AABQHER0.TIF
       AC Image Role:Display
       AC_Authored_Abstract:None
!PE_ID:FE
!Yr of Pub:1999
!Instr Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
       Contrib Affiliation: University of Alberta
SECTION:0130808598.06.03.00
!Filename:0130808598.06.03.00.sgm
!CDAOID:AABQHES0
!Index_Term:strategies
!Index_Term:course, preparing for
!Index_Term:courses
!Index_Term:preparing for
!Index_Term:prerequisite
!Index_Term:assessment test
!Index_Term:test
!Index_Term:assessment
!Title:Preparing for an Engineering Course: Making Sure Your Prerequisite Works
!SGML_Char_Cnt:9997
!AC_Counts
       ACFORMID:4
       NUMBERAC:4
!AC Counts
       ACFORMID:3
       NUMBERAC:19
!Associated_Component
       AC PE ID:FE
       AC_CDAOID:AABQHET0
       AC_Title:AABFXAM0
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHET0.EPS
       AC Image Role:Display
       AC Authored Abstract:None
!Associated_Component
```



```
AC_PE_ID:FE
      AC CDAOID: AABQHFB0
      AC_Title:AAARNDM0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFB0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFC0
      AC_Title:AAARNDN0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFC0.EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFD0
      AC_Title:AABAXVT0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFD0.EPS
      AC_Image_Role:Display
      AC Authored Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFE0
      AC_Title:AABFXAX0
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHFE0.EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFF0
      AC_Title:AABFXAY0
      AC Image Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFF0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHFG0
      AC Title: AABFXAZ0
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHFG0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFH0
      AC_Title:AABFXBA0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFH0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
```

```
AC_PE_ID:FE
      AC CDAOID:AABQHFI0
      AC_Title:AABFXBB0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFI0.EPS
      AC_Image_Role:Display
      AC Authored Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFJ0
      AC_Title:AABFXBC0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFJ0.EPS
      AC_Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFK0
      AC_Title:AABFXBD0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFK0.EPS
      AC_Image_Role:Display
      AC Authored Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFL0
      AC_Title:AABFXBE0
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHFL0.EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFM0
      AC_Title:AABFXBF0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFM0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHFN0
      AC_Title:AABFXBG0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFN0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFO0
      AC_Title:AABFXBH0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFO0.EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
```

```
AC_PE_ID:FE
ļ
       AC CDAOID:AABQHFP0
       AC_Title:AABFXBI0
       AC_Image_Type:EPS
       AC Graphic Filename:HiRes\AABQHFP0.EPS
       AC_Image_Role:Display
       AC_Authored_Abstract:None
!PE_ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
       Contrib_Affiliation:University of Alberta
SECTION:0130808598.06.04.00
!Filename:0130808598.06.04.00.sgm
!CDAOID:AABQHFQ0
!Index_Term:note taking, effective
!Index_Term:strategies
!Index_Term:note taking
!Index_Term:prerequisite
!Title:Effective Note Taking
!SGML_Char_Cnt:10014
!PE ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
       Contrib_Affiliation:University of Alberta
SECTION:0130808598.06.05.00
!Filename:0130808598.06.05.00.sgm
!CDAOID:AABQHFR0
!Index_Term:strategies
!Index_Term:course textbook, making effective use of
!Title:Making Effective Use of the Course Textbook
!SGML_Char_Cnt:4468
!PE_ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
```

```
!Page_Count:0
!Created By:BARKER
!Contrib_Group
      Contrib_First_Name:Peter
      Contrib Last Name:Schiavone
      Contrib_Affiliation:University of Alberta
SECTION:0130808598.06.06.00
!Filename:0130808598.06.06.00.sgm
!CDAOID:AABQHFS0
!Index_Term:strategies
!Index_Term:assignments, how to be effective on
!Index_Term:assignments
!Index_Term:how to be effective on
!Title:How to Be Effective on Assignments
!SGML_Char_Cnt:10108
!AC_Counts
      ACFORMID:2
      NUMBERAC:4
!AC_Counts
      ACFORMID:4
      NUMBERAC:3
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFT0
      AC_Title:FIG53
      AC_Image_Type:TIFF
      AC_Graphic_Filename:HiRes\AABQHFT0.TIF
      AC Image Role:Display
      AC Authored Abstract:None
!Associated Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFU0
      AC_Title:AABFXBP0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFU0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFV0
      AC_Title:AABFXBQ0
      AC Image Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFV0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHFW0
      AC_Title:AABFXBR0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHFW0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC PE ID:FE
      AC_CDAOID:AABQHFX0
```

```
AC_Title:AABFXBS0
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHFX0.EPS
ļ
       AC_Image_Role:Display
       AC_Authored_Abstract:None
!Associated_Component
       AC_PE_ID:FE
       AC_CDAOID:AABQHFY0
       AC_Title:PAGE79C
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHFY0.EPS
       AC_Image_Role:Display
       AC Authored Abstract:None
!Associated_Component
       AC_PE_ID:FE
       AC_CDAOID:AABQHFZ0
       AC Title: AABFXBU0
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHFZ0.EPS
       AC_Image Role:Display
       AC_Authored_Abstract:None
!PE_ID:FE
!Yr of Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
       Contrib_Affiliation:University of Alberta
SECTION:0130808598.06.07.00
!Filename:0130808598.06.07.00.sgm
!CDAOID:AABQHGA0
!Index_Term:strategies
!Index_Term:posted solutions to assignments, using
!Title:Using Posted Solutions to Assignments
!SGML_Char_Cnt:1649
!PE ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
       Contrib Affiliation:University of Alberta
SECTION:0130808598.06.08.00
!Filename:0130808598.06.08.00.sgm
```

!CDAOID:AABQHGB0 !Index Term:strategies !Index_Term:tutors, using !Index_Term:tutors !Index Term:using !Index_Term:study guides, using !Index_Term:hiring a !Index Term:self-study manuals, buying and using !Title:Using Tutors and Study Guides !SGML_Char_Cnt:6033 !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta FRONT AND BACK ELEMENT:0130808598.06.09.00 !Filename:0130808598.06.09.00.sgm !CDAOID:AABQHGC0 !Role:CH.END !Title:Problems !SGML Char Cnt:5409 !PE ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta CHAPTER.C:0130808598.07.00.00 !SKU:000000014656

!Authored_Abstract:Examinations invariably make up the single largest contribution to your final grade in any engineering course.

!Title:How to Be Successful on Examinations

!Authored_Abstract:This simple fact explains why many engineering students are focused on examinations (quizzes, midterms, and finals), rather than on an appreciation of the course material. Like it or not, your performance on examinations will more or less determine how well you do in your engineering courses. For this reason, it is essential to understand why the very best engineering students are so successful in examinations and to learn how to use this information to your advantage.

!Authored_Abstract:So why do certain students perform so much better than others on examinations? Some students put it down to a simple matter of intelligence: "Oh, that girl is really smart. Her father is a physics teacher and her mother has a Ph.D. No wonder she scores over 90 percent on all her tests." Others put it down to the lack of a social life: "That guy never goes out. He

does nothing but study. No wonder he performs so well on tests!" I suggest that neither is entirely correct and that the truth lies somewhere in between. At senior high school and junior college levels, intelligence alone is no longer sufficient to place someone in the top 5 of the class. There is far too much material to absorb and not enough time in which to absorb it-even if you devote all your time to studying. In fact, it has been my experience that the very best students have an extremely active social life. Indeed their level of success often increases with their level of activity. Achieving success has more to do with how you prepare for an examination and what you do to prepare.

!Authored_Abstract:I learned early on in my academic career that

!Authored_Abstract:knowing the course material ≠ success in course examinations.

!Authored_Abstract:I recall my midterm examination from my first engineering mechanics course. I had worked consistently throughout the year, understanding the course material, doing every assignment, and working through extra practice problems (in much the same way as I did when I was in high school). I understood the main ideas and concepts, and I was able to apply them in different situations. So I was quite confident that I would do well on the examination. Imagine my surprise when I discovered that I had scored only 58 percent! Worse than that, many of those students scoring above me had performed poorly throughout the course having missed assignments and often asking me for help. I couldn't understand why this happened. I had worked hard and I knew the material, so why wasn't I performing to the best of my ability? I began to discover the answer to my question when I asked one of my classmates (who had the highest score on the test) how she had prepared for the examination. It became clear

to me that there were some missing ingredients in my test preparation routine. Basically, it came down to two things:

!Authored_Abstract:Smart practiceExamination technique

!Authored_Abstract:My friend and I had both prepared well during the course. What made the difference in our midterm scores was what we did in preparing for the test itself. She had obviously regarded the test as a separate entity, targeting and tailoring all her efforts not solely toward reviewing the course material (as I did), but toward doing well on the test itself (smart practice). She had obtained many former and practice midterm examinations and rehearsed her performance, so that she had a much better idea of what was expected and how to demonstrate the required knowledge under a time constraint (examination technique). She was entirely focused on doing well on the examination. I, on the other hand, was focused on the course material, believing that to be sufficient to perform to the best of my ability on the midterm.

!Authored_Abstract:To understand why my friend's strategy was so much more effective than mine, let's return to the car-driving analogy. None of us believe that we can pass a standard driving test simply by driving the way we do in everyday life. We recognize that a driving test requires us to demonstrate a distinct collection of maneuvers and exercises, based on basic driving skills, under examination conditions. Conversely, no one continues to drive the way they did during their driving test. The latter is a rehearsed performance, requiring specific targeted practice based on a knowledge of exact requirements (smart practice) and a focused effort to perform well under specific test conditions (examination technique). Consequently, in preparing for a driving test, we find out as much as we can about what is required and target our preparation (as effectively as possible) toward those particular goals. Exactly the same principles apply to preparing for any test, academic or otherwise.

!Authored_Abstract:In fact, since that first mechanics midterm, an acknowledgment of these basic principles has allowed me to perform to the best of my abilities on all subsequent examinations, such as academic examinations (in many different disciplines), driving tests, athletics competitions, or whatever requires me to demonstrate performance under a given set of constraints.

!Authored_Abstract:In this chapter, we discuss, in detail, the many different aspects of maximizing performance on examinations, including, in particular, the two main ingredients: smart practice and examination technique.

!PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group

! Contrib_First_Name:Peter ! Contrib_Last_Name:Schiavone ! Contrib_Affiliation:University of

Contrib_Affiliation:University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.07.01.00

!Filename:0130808598.07.01.00.sgm

!CDAOID:AABQHGD0

!Role:CH.BEGIN

!Index_Term:examinations, how to be successful

!Index_Term:smart practice !Index_Term:examination !Index_Term:technique !Title:Sections/Objectives !SGML_Char_Cnt:5643

!PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01

!Revision:00

!Pub_Med_Type:Paper

!Status:0 !Page_Count:0 !Created_By:BARKER

!Contrib_Group

! Contrib_First_Name:Peter! Contrib_Last_Name:Schiavone! Contrib Affiliation:University of Alberta

SECTION:0130808598.07.02.00

!Filename:0130808598.07.02.00.sgm

!CDAOID:AABQHGE0

!Index_Term:examinations, how to be successful

!Index_Term:preparing for !Index_Term:examinations !Index_Term:smart practice !Index_Term:specific events !Index_Term:events, specific !Index_Term:cramming !Index_Term:examination !Index_Term:homework

!Index_Term:assignments !Index_Term:problem solving

!Index_Term:techniques !Index_Term:technique

!Index_Term:problem-solving !Index_Term:help, asking for

!Index_Term:short-term

!Index_Term:past examinations !Index_Term:practice, problems !Index_Term:assigned problems

!Index_Term:problems !Index_Term:assigned

!Index_Term:suggested problems

!Index_Term:suggested !Index_Term:past

```
!Index_Term:exam anxiety
!Index_Term:anxiety
!Index_Term:exam
!Index_Term:dress rehearsal
!Index Term:insufficient time
!Index_Term:time
!Index_Term:insufficient
!Title:Preparing for Examinations: Smart Practice and Examination Technique
!SGML_Char_Cnt:15289
!PE_ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib First Name:Peter
       Contrib_Last_Name:Schiavone
       Contrib_Affiliation:University of Alberta
SECTION:0130808598.07.03.00
!Filename:0130808598.07.03.00.sgm
!CDAOID:AABQHGF0
!Index_Term:examinations, how to be successful
!Index_Term:getting organized
!Index_Term:preparing for
!Index_Term:review schedule, prepare a
!Index Term:dress rehearsal
!Index_Term:review
!Index_Term:study groups.
!Title:Preparing for Examinations: Getting Organized
!SGML_Char_Cnt:10101
!PE_ID:FE
!Yr_of_Pub:1999
!Instr Onlv:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
```

```
!Index_Term:written
!Index_Term:written examinations
!Index_Term:maximizing performance in
!Index_Term:open-book examinations
!Index_Term:open-book
!Index_Term:formula sheets
!Index_Term:time
!Index_Term:watch your
!Index_Term:clarification, ask for
!Index_Term:multiple-choice tests
!Index_Term:tests
!Index Term:multiple-choice
!Title:Taking the Examination
!SGML_Char_Cnt:20746
!AC_Counts
      ACFORMID:2
      NUMBERAC:6
!AC_Counts
      ACFORMID:4
      NUMBERAC:1
!AC_Counts
      ACFORMID:3
      NUMBERAC:1
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHGH0
      AC_Title:AABFXCE0
      AC Image Type:EPS
      AC Graphic Filename: HiRes\AABQHGH0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHGI0
      AC_Title:AABFXCF0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHGI0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHGJ0
      AC_Title:AABFXCH0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHGJ0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHGK0
      AC_Title:AABAXVY0
      AC_Image_Type:EPS
      AC Graphic Filename: HiRes\AABQHGK0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
```

```
AC_PE_ID:FE
       AC_CDAOID:AABQHGL0
       AC_Title:AABFXCL0
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHGL0.EPS
       AC_Image_Role:Display
       AC_Authored_Abstract:None
!Associated_Component
       AC_PE_ID:FE
       AC_CDAOID:AABQHGM0
       AC_Title:AABFXCN0
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHGM0.EPS
       AC Image Role:Display
       AC_Authored_Abstract:None
!Associated_Component
       AC PE ID:FE
       AC CDAOID:AABQHGN0
       AC_Title:AABFXCO0
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHGN0.EPS
       AC_Image_Role:Display
       AC_Authored_Abstract:None
!Associated_Component
       AC_PE_ID:FE
       AC_CDAOID:AABQHGO0
       AC_Title:AABFXCP0
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHGO0.EPS
       AC Image Role:Display
       AC Authored Abstract:None
!PE_ID:FE
!Yr_of_Pub:1999
!Instr Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
       Contrib Affiliation: University of Alberta
SECTION:0130808598.07.05.00
!Filename:0130808598.07.05.00.sgm
!CDAOID:AABQHGP0
!Index_Term:examination
!Index Term:after the
!Index_Term:errors in grading, indentification
!Index_Term:mistakes, learning from your
!Index_Term:self-critique
!Index_Term:examinations
!Index_Term:learning from
!Index_Term:failing grades, what to do for
Index Term:smart practice
```

!SKU:000000014663

!Index_Term:rehearsing !Index_Term:short-term !Index_Term:preparation !Index_Term:preparation, short-term !Title:After the Examination !SGML_Char_Cnt:4842 !PE ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page Count:0 !Created_By:BARKER !Contrib_Group Contrib First Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.07.06.00 !Filename:0130808598.07.06.00.sgm !CDAOID:AABQHGQ0 !Role:CH.END !Title:Problems !Index_Term:examinations, how to be successful !SGML_Char_Cnt:3162 !PE_ID:FE !Yr_of_Pub:1999 !Instr Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta CHAPTER.C:0130808598.08.00.00

!Title:Procedures for Effective Problem Solving
!Authored_Abstract:We have already noted that examples and practice problems are essential components of maximizing one's performance in any engineering course. Consequently, a significant amount of course time (lectures, tutorials, labs, and assignments) is devoted to worked-out examples and relevant practice problems.5 and, we emphasized the importance of presentation in developing effective problem-solving techniques-in other words, how an effective solution requires that you demonstrate a clear, logical, and organized procedure.--> In this chapter, we examine actual problem-solving strategies. We illustrate our ideas with worked-out examples from different engineering courses.

!Authored_Abstract:Basically, two types of problems are encountered in engineering courses:
!Authored_Abstract:Type AThose that require mainly the application of known techniques and minimal thinking. In other words, these problems require you to repeat from memory, know the meanings of certain key concepts, and apply established course material to new situations. Such problems are also known as plug-and-chug problems, solved by applying a formula or set procedure. This type of problem is

common in introductory mathematics courses, such as beginning calculus, where you are often asked to use set procedures to, for example, differentiate . . . , integrate , solve , and so on.

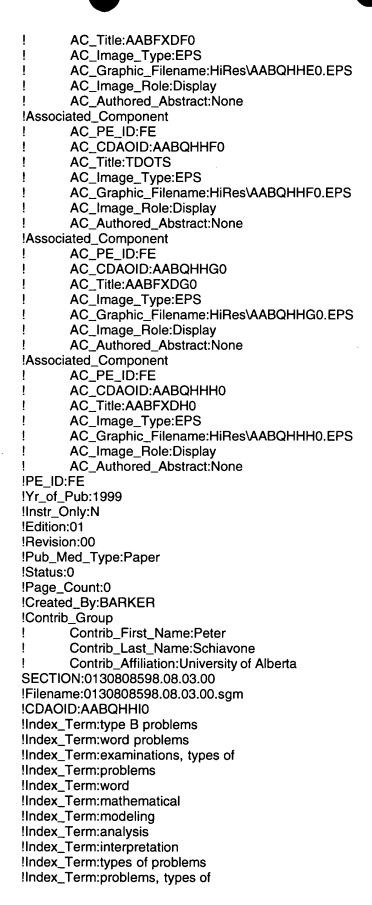
!Authored_Abstract:Type BThose that require mainly thinking and minimal application of established techniques. These problems exercise the higher level thinking skills and, as such, are often more difficult than Type A problems. They usually involve some mathematical modeling, followed by the evaluation and application of selected mathematical techniques (usually from the course material) and, finally, the interpretation of results in the context of the physical problem. Type B problems include those commonly referred to as word problems and are usually found in courses such as engineering mechanics and physics, where real physical situations must first be translated into mathematical language before known procedures can be applied.

!Authored_Abstract:In the sections that follow, we examine procedures used to solve each type of problem.

```
!PE_ID:FE
!Yr_of_Pub:1999
!Instr Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
•
       Contrib Last Name: Schiavone
       Contrib_Affiliation:University of Alberta
!
       FRONT_AND_BACK_ELEMENT:0130808598.08.01.00
       !Filename:0130808598.08.01.00.sgm
       !CDAOID:AABQHGR0
       !Role:CH.BEGIN
       !Index Term:problem solving
       !Index Term:procedures for effective
       !Index_Term:types of problems
       !Index_Term:problems, types of
       !Index_Term:type A problems
       !Index_Term:type B problems
       !Index_Term:mathematical
       !Index Term:models
       !Index_Term:word problems
       !Index_Term:problems
       !Index_Term:word
       !Title:Sections/Objectives
       !SGML_Char_Cnt:2368
       !PE_ID:FE
       !Yr of Pub:1999
       !Instr Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib_Group
       ţ
              Contrib_First_Name:Peter
               Contrib Last Name:Schiavone
               Contrib Affiliation:University of Alberta
       SECTION:0130808598.08.02.00
```

!Filename:0130808598.08.02.00.sgm !CDAOID:AABQHGS0 !Index_Term:type A problems !Index_Term:problems, types of !Index_Term:problem solving !Index Term:procedures for effective !Index Term:application !Title:Solving Problems That Require Mainly Application: Type A !SGML_Char_Cnt:9158 !AC_Counts ACFORMID:2 **NUMBERAC:1** !AC_Counts ACFORMID:3 **NUMBERAC:8** !AC_Counts ACFORMID:1 **NUMBERAC:3 !AC** Counts ACFORMID:4 NUMBERAC:3 !Associated_Component AC_PE_ID:FE AC_CDAOID:AABQHGT0 AC_Title:FIG71 AC_Image_Type:EPS AC_Graphic_Filename:HiRes\AABQHGT0.EPS AC_Image_Role:Display AC_Authored_Abstract:None !Associated_Component AC PE ID:FE AC_CDAOID:AABQHGU0 AC_Title:AABFXCV0 AC_Image_Type:EPS AC_Graphic_Filename:HiRes\AABQHGU0.EPS AC_Image_Role:Display AC_Authored Abstract:None !Associated Component AC_PE_ID:FE AC_CDAOID:AABQHGV0 AC_Title:AABFXCW0 AC_Image_Type:EPS AC_Graphic_Filename:HiRes\AABQHGV0.EPS AC Image Role:Display AC_Authored_Abstract:None !Associated_Component AC PE ID:FE AC_CDAOID:AABQHGW0 AC_Title:AABFXCX0 AC_Image_Type:EPS AC_Graphic_Filename:HiRes\AABQHGW0.EPS AC_Image_Role:Display AC_Authored_Abstract:None !Associated_Component AC_PE_ID:FE AC_CDAOID:AABQHGX0

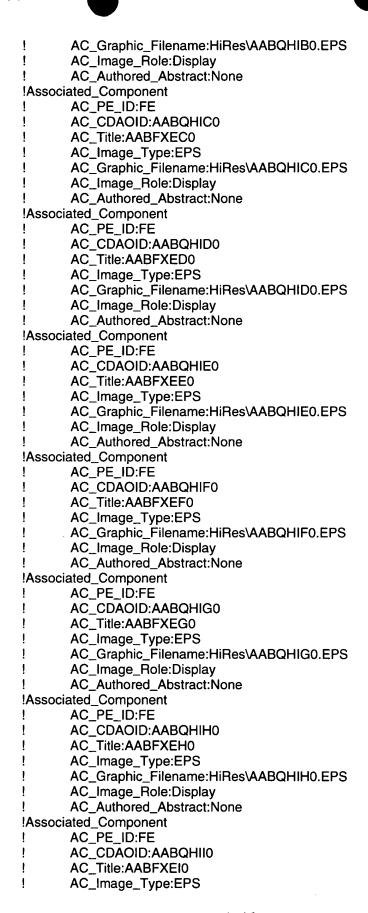
! AC_Title:AABFXCY0
AC Image Type:EPS
! AC_Graphic_Filename:HiRes\AABQHGX0.EPS
! AC_Image_Role:Display
! AC_Authored_Abstract:None
!Associated_Component
! AC_PE_ID:FE
! AC_CDAOID:AABQHGY0
! AC_Title:AABFXCZ0
! AC_Image_Type:EPS
! AC_Graphic_Filename:HiRes\AABQHGY0.EPS
! AC_Image_Role:Display
! AC_Authored_Abstract:None
Mesociated Component
:Associated_Component
!Associated_Component ! AC_PE_ID:FE ! AC_CDAOID:AABQHGZ0
! AC_CDAOID:AABQHGZ0
! AC_Title:AABFXDA0
! AC_Image_Type:EPS
! AC_Graphic_Filename:HiRes\AABQHGZ0.EPS
! AC_Image_Role:Display
! AC_Authored_Abstract:None
!Associated_Component
I AC DE ID-EE
! AC_PE_ID:FE
! AC_CDAOID:AABQHHA0 ! AC_Title:AABFXDB0
! AC_ITTIE:AABFXDBU
! AC_Image_Type:EPS
! AC_Graphic_Filename:HiRes\AABQHHA0,EPS
! AC_Image_Role:Display
! AC_Authored_Abstract:None
!Associated_Component
! AC_PE_ID:FE
! AC_CDAOID:AABQHHB0
! AC_Title:AABFXDC0
I AC Imaga Typo:EDS
! AC_Image_Type:EPS! AC_Graphic_Filename:HiRes\AABQHHB0.EPS
! AC_Graphic_Filename:ninesWADQnnbu.EP3
! AC_Image_Role:Display
! AC_Authored_Abstract:None
!Associated_Component
! AC_PE_ID:FE
! AC_CDAOID:AABQHHC0
! AC_Title:AABFXDD0
AC Image Type:FPS
! AC_Graphic_Filename:HiRes\AABQHHC0.EPS
! AC_Image_Role:Display
! AC_Authored_Abstract:None
!Associated_Component
:Associated_Component
! AC_PE_ID:FE
! AC_CDAOID:AABQHHD0
! AC_Title:AABFXDE0
! AC_Image_Type:EPS
! AC_Graphic_Filename:HiRes\AABQHHD0.EPS
! AC_Image_Role:Display
! AC_Authored_Abstract:None
Associated Component
!Associated_Component ! AC_PE_ID:FE
: AC_CDAOID: AADOUUTO
! AC_CDAOID:AABQHHE0



!Index Term:differentiation of functions !Index_Term:functions, differentiation of !Index_Term:particle !Index_Term:curvilinear path !Index_Term:useful ideas for solving !Title:Solving Problems of Type B: Word Problems !SGML_Char_Cnt:17565 !AC_Counts **ACFORMID:2 NUMBERAC:7** !AC_Counts ACFORMID:4 **NUMBERAC:11** !AC_Counts ACFORMID:1 NUMBERAC:10 !AC_Counts **ACFORMID:3 NUMBERAC:15** !Associated_Component AC_PE_ID:FE AC_CDAOID:AABQHHJ0 AC_Title:FIG72 AC_Image_Type:EPS AC_Graphic_Filename:HiRes\AABQHHJ0.EPS AC Image Role:Display AC_Authored_Abstract:None !Associated_Component AC PE ID:FE AC_CDAOID:AABQHHK0 AC_Title:FIG73 AC Image Type:EPS AC_Graphic_Filename:HiRes\AABQHHK0.EPS AC_Image_Role:Display AC_Authored_Abstract:None !Associated_Component AC_PE_ID:FE AC_CDAOID:AABQHHL0 AC_Title:FIG74 AC_Image_Type:EPS AC_Graphic_Filename:HiRes\AABQHHL0.EPS AC Image Role:Display AC_Authored Abstract:None !Associated_Component AC_PE_ID:FE AC_CDAOID:AABQHHM0 AC_Title:AABFXDN0 AC_Image_Type:EPS AC_Graphic_Filename:HiRes\AABQHHM0.EPS AC_Image_Role:Display AC_Authored_Abstract:None !Associated_Component AC_PE_ID:FE AC CDAOID:AABQHHN0 AC_Title:AABFXDO0 AC_Image_Type:EPS

```
AC_Graphic_Filename:HiRes\AABQHHN0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHHO0
      AC_Title:AABFXDP0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHO0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHHP0
      AC_Title:AABFXDQ0
      AC Image Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHP0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHHQ0
      AC_Title:AABFXDR0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHQ0.EPS
      AC_Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC CDAOID:AABQHHR0
      AC_Title:AABFXDS0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHR0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHHS0
      AC_Title:AABFXDT0
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHHS0,EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE ID:FE
      AC_CDAOID:AABQHHT0
      AC_Title:AABFXDU0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHT0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHHU0
      AC_Title:AABFXDV0
      AC_Image_Type:EPS
```

```
AC_Graphic_Filename:HiRes\AABQHHU0.EPS
!
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHHV0
      AC_Title:AABAXWA0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHV0.EPS
      AC_Image_Role:Display
      AC Authored Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHHW0
      AC_Title:AABFXDW0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHW0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHHX0
      AC_Title:AABFXDX0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHX0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHHY0
      AC_Title:AABFXDY0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHY0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHHZ0
      AC_Title:AABFXDZ0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHHZ0.EPS
      AC Image Role:Display
      AC Authored Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHIA0
      AC_Title:AABFXEA0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHIA0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHIB0
      AC_Title:AABFXEB0
      AC_Image_Type:EPS
```



```
AC_Graphic_Filename:HiRes\AABQHII0.EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHIJ0
      AC_Title:AABFXEJ0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHIJ0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHIK0
      AC_Title:FIG75
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHIK0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHIL0
      AC_Title:FIG76
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHIL0.EPS
      AC_Image_Role:Display
      AC_Authored _Abstract:None
!Associated_Component
      AC PE ID:FE
      AC CDAOID:AABQHIM0
      AC_Title:AABFXEN0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHIM0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHIN0
      AC_Title:AABFXEO0
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHIN0.EPS
      AC Image Role:Display
      AC Authored Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHIO0
      AC_Title:AABAXWC0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHIO0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHIP0
      AC_Title:AABAXWD0
      AC_image_Type:EPS
```

!Title:Mathematics

```
ļ
              AC Graphic Filename:HiRes\AABQHIP0.EPS
       Ţ
              AC Image Role:Display
       ţ
              AC_Authored_Abstract:None
       !Associated_Component
              AC PE ID:FE
              AC_CDAOID:AABQHIQ0
              AC_Title:AABFXEQ0
              AC_Image_Type:EPS
              AC_Graphic_Filename:HiRes\AABQHIQ0.EPS
              AC_Image_Role:Display
              AC_Authored Abstract:None
       !PE ID:FE
       !Yr_of_Pub:1999
       !Instr_Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib_Group
              Contrib_First_Name:Peter
              Contrib_Last_Name:Schiavone
              Contrib_Affiliation:University of Alberta
       FRONT_AND_BACK_ELEMENT:0130808598.08.04.00
       !Filename:0130808598.08.04.00.sgm
       !CDAOID:AABQHIR0
       !Role:CH.END
       !Title:Problems
       !Index_Term:problem solving
       !Index_Term:procedures for effective
       !SGML_Char_Cnt:2152
       !PE_ID:FE
       !Yr_of_Pub:1999
       !Instr_Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib Group
              Contrib_First_Name:Peter
              Contrib Last Name:Schiavone
              Contrib Affiliation:University of Alberta
CHAPTER.C:0130808598.09.00.00
!SKU:000000014670
```

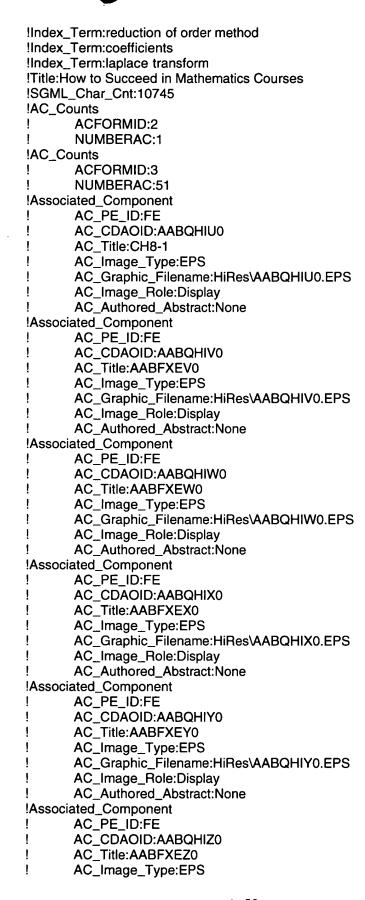
!Authored_Abstract:Mathematics is the language of engineering. It is the vehicle by which ideas are analyzed, developed, and communicated in engineering. We have already seen this in , where we used mathematical modeling to solve word problems. It is no accident, therefore, that the undergraduate engineering curriculum includes several mathematics courses, each one designed to give you adequate skill and knowledge to deal with engineering problems of increasing complexity. (See .)

!Authored_Abstract:Besides furnishing you with the tools of the profession, engineering mathematics courses are intended to develop the logical, rational, problem-solving skills that are so crucial to good engineering practice. Some of the best mathematicians I know are engineers. For

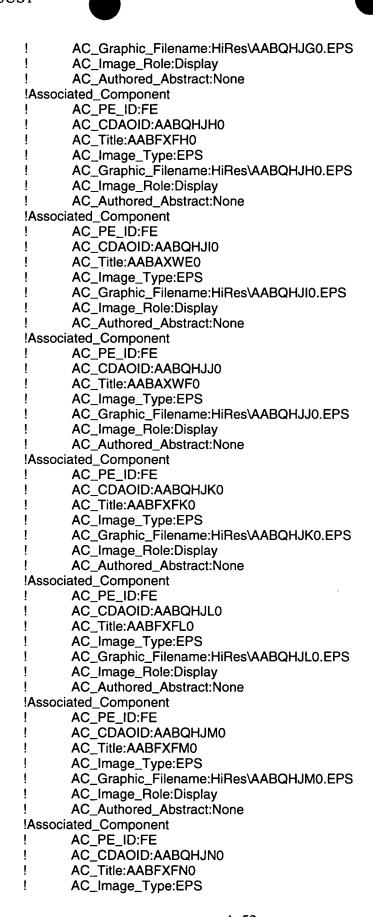
example, my colleague David Steigmann is a professor of mechanical engineering at the University of California at Berkeley. As a research engineer, David is interested in mathematics primarily as a means to an end; his main interests lie in solving problems related to continuum mechanics, shell theory, elasticity, the stability of mechanical structures, surface stress in solids, capillary phenomena, and the mechanics of thin films. Yet, in analyzing these problems, he has developed significant mathematical expertise, which puts him among the best in the world!

!Authored_Abstract:You should regard your mathematics courses in the same way-as a means to an end-courses designed to equip you with the necessary skills to succeed in engineering. You don't have to love mathematics or even appreciate its beauty. Just learn how to use it effectively to solve engineering problems-that's the key.

```
!PE ID:FE
!Yr of Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
       Contrib_Last_Name:Schiavone
ļ
ļ
       Contrib_Affiliation:University of Alberta
       FRONT AND BACK ELEMENT:0130808598.09.01.00
       !Filename:0130808598.09.01.00.sgm
       !CDAOID:AABQHIS0
       !Role:CH.BEGIN
       !Index_Term:mathematics
       !Index_Term:Steigmann, David
       !Title:Sections/Objectives
       !SGML Char Cnt:1990
       !PE ID:FE
       !Yr of Pub:1999
       !Instr Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib_Group
               Contrib_First_Name:Peter
               Contrib_Last_Name:Schiavone
               Contrib Affiliation: University of Alberta
       SECTION:0130808598.09.02.00
       !Filename:0130808598.09.02.00.sgm
       !CDAOID:AABQHIT0
       !Index_Term:mathematics
       !Index_Term:how to succeed
       !Index_Term:courses
       !Index Term:defined
       !Index_Term:procedure for being effective in mathematics
       !Index_Term:calculus, sample final exam
       !Index_Term:examinations
       !Index_Term:final
       !Index_Term:differential equations, final examination sample
```



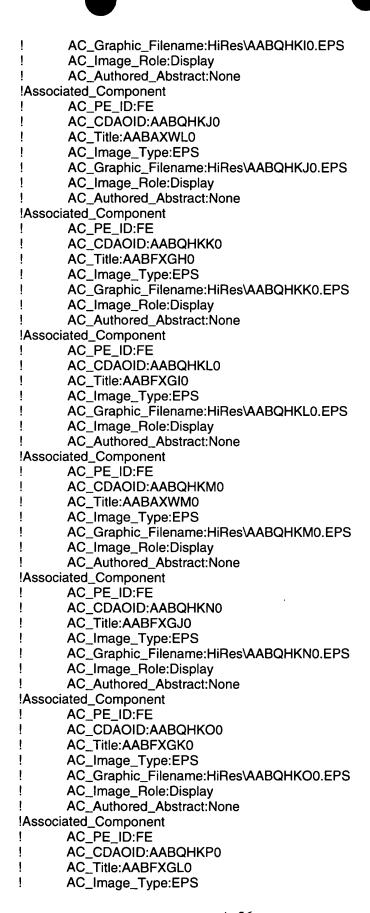
```
!
      AC_Graphic_Filename:HiRes\AABQHIZ0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJA0
      AC_Title:AABFXFA0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJA0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJB0
      AC_Title:AABFXFB0
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHJB0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJC0
      AC_Title:AABFXFC0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJC0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID: AABQHJD0
      AC_Title:AABFXFD0
      AC_Image_Type:EPS
      AC_Graphic Filename:HiRes\AABQHJD0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJE0
      AC_Title:AABFXFE0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJE0.EPS
      AC_Image_Role:Display
      AC_Authored Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJF0
      AC_Title:AABFXFF0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJF0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHJG0
      AC Title: AABFXFG0
      AC_Image_Type:EPS
```



```
AC Graphic_Filename:HiRes\AABQHJN0.EPS
      AC Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHJO0
      AC_Title:AABFXFO0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJO0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJP0
      AC_Title:AABFXFP0
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHJP0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJQ0
      AC_Title:AABFXFQ0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJQ0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJR0
      AC_Title:AABFXFR0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJR0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJS0
      AC_Title:AABFXFS0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJS0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJT0
      AC_Title:AABFXFT0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJT0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJU0
      AC_Title:AABFXFU0
      AC_Image_Type:EPS
```

```
AC Graphic Filename:HiRes\AABQHJU0.EPS
ļ
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJV0
      AC_Title:AABFXFV0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJV0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJW0
      AC_Title:AABFXFW0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJW0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJX0
      AC_Title:AABFXFX0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJX0.EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC PE ID:FE
      AC_CDAOID:AABQHJY0
      AC_Title:AABFXFY0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHJY0.EPS
      AC_Image_Role:Display
      AC Authored Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHJZ0
      AC_Title:AABFXFZ0
      AC_Image_Type:EPS
      AC Graphic Filename:HiRes\AABQHJZ0.EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHKA0
      AC_Title:AABFXGA0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHKA0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHKB0
      AC_Title:AABAXWG0
      AC_Image_Type:EPS
```

```
AC_Graphic_Filename:HiRes\AABQHKB0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHKC0
      AC_Title:AABAXWH0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHKC0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHKD0
      AC_Title:AABAXWI0
      AC Image Type:EPS
      AC Graphic Filename:HiRes\AABQHKD0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHKE0
      AC_Title:AABFXGD0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHKE0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC PE ID:FE
      AC_CDAOID:AABQHKF0
      AC_Title:AABFXGE0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHKF0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC_PE_ID:FE
      AC_CDAOID:AABQHKG0
      AC_Title:AABAXWJ0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHKG0.EPS
      AC Image Role:Display
      AC_Authored_Abstract:None
!Associated Component
      AC PE ID:FE
      AC_CDAOID:AABQHKH0
      AC_Title:AABFXGG0
      AC_Image Type:EPS
      AC_Graphic_Filename:HiRes\AABQHKH0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHKI0
      AC Title: AABAXWK0
      AC_Image_Type:EPS
```



```
AC_Graphic_Filename:HiRes\AABQHKP0.EPS
       AC_Image_Role:Display
       AC_Authored_Abstract:None
!Associated_Component
       AC_PE ID:FE
       AC_CDAOID:AABQHKQ0
       AC_Title:AABFXGM0
       AC_Image_Type:EPS
       AC_Graphic_Filename:HiRes\AABQHKQ0.EPS
       AC_Image_Role:Display
       AC_Authored_Abstract:None
!Associated Component
       AC_PE_ID:FE
       AC_CDAOID:AABQHKR0
       AC_Title:AABFXGN0
       AC_Image_Type:EPS
       AC Graphic Filename:HiRes\AABQHKR0.EPS
       AC_Image_Role:Display
      AC_Authored_Abstract:None
!Associated_Component
       AC_PE_ID:FE
      AC_CDAOID:AABQHKS0
      AC_Title:AABFXGP0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHKS0.EPS
      AC_Image_Role:Display
       AC_Authored_Abstract:None
!Associated_Component
      AC_PE_ID:FE
      AC CDAOID:AABQHKT0
      AC Title: AABFXGQ0
      AC_Image_Type:EPS
      AC_Graphic_Filename:HiRes\AABQHKT0.EPS
      AC_Image_Role:Display
      AC_Authored_Abstract:None
!PE ID:FE
!Yr of Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib Group
      Contrib_First_Name:Peter
      Contrib_Last_Name:Schiavone
      Contrib_Affiliation:University of Alberta
FRONT AND BACK ELEMENT:0130808598.09.03.00
!Filename:0130808598.09.03.00.sgm
!CDAOID:AABQHKU0
!Role:CH.END
!Title:Problems
!Index_Term:mathematics
!SGML_Char Cnt:988
!PE_ID:FE
```



!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
! Contrib_First_Name:Peter
! Contrib_Last_Name:Schiavone
! Contrib_Affiliation:University of Alberta

CHAPTER.C:0130808598.10.00.00

!SKU:000000014687

!Title:Developing Engineering Skills

!Authored_Abstract:Excellent technical engineering skills are, in themselves, not sufficient to guarantee a successful career in engineering. The following is a list of skills that employers are constantly demanding. The ability to communicate effectively, including-The ability to write clear, coherent technical documents. The ability to present well-researched, well-organized seminars confidently and competently. The ability to work effectively in teams with people from different backgrounds. The ability to demonstrate creativity in all aspects of the profession. The ability to manage personnel and resources in engineering projects. The ability to keep up to date with developments during one' s years as a professional engineer.

!Authored_Abstract:These skills are highly prized by employers. Acquiring such skills will not only give you the edge in employability, but also allow you to go well beyond your training as an engineer towards an ever-expanding number of exciting and challenging opportunities.

!Authored_Abstract:What can you do to give yourself a head start and acquire the foregoing skills before you graduate? We have already discussed how teamwork and independent learning skills Chapter 4) -->can contribute to success in engineering study. Practicing these skills as an undergraduate engineering student is an excellent way to equip yourself beforehand with at least three of them: The ability to work effectively in teams with people from different backgrounds. Your experience with teamwork as an undergraduate engineering student will make this skill second nature to you by the time you graduate. Not only will you know how to work as part of a team, but you will have the ability to organize and manage teams. The ability to keep up to date with developments in engineering. As an engineering student, you become well accustomed to learning and thinking independently. The ability to keep up to date with developments in engineering requires that you find and assimilate information independently, as requir ed. This is exactly what you do as a resourceful, committed undergraduate engineering student. The ability to manage personnel and resources in engineering projects. Practicing teamwork and independent learning together means that you learn to manage not only your own resources (time, energy, money, etc.), but also the resources of those around you. You learn how to find information effectively, how to use that information to attain a defined goal, and how to communicate the information to other group members.

!Authored_Abstract:In this chapter, we concern ourselves with the remaining two engineering skills:The ability to communicate effectively, includingThe ability to write clear, coherent technical documents.The ability to present well-researched, well-organized seminars confidently and competently.The ability to demonstrate creativity in all aspects of the profession.

!PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group !

..:



Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib Affiliation: University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.10.01.00 !Filename:0130808598.10.01.00.sgm !CDAOID:AABQHKV0 !Role:CH.BEGIN !Index_Term:skills !Index_Term:developing !Index_Term:teamwork !Index_Term:independent learning skills !Index_Term:independent learning !Index_Term:team, work effectively !Index_Term:developments, keeping up with !Index Term:projects, managing personnel and resources !Title:Sections/Objectives !SGML_Char_Cnt:3319 !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter ļ Contrib_Last_Name:Schiavone Contrib Affiliation: University of Alberta SECTION:0130808598.10.02.00 !Filename:0130808598.10.02.00.sgm !CDAOID:AABQHKW0 !Index_Term:communications !Index_Term:skills !Index_Term:communication !Index Term:developing !Index_Term:communiation !Index_Term:information, gathering !Index_Term:written communications !Index_Term:written !Index_Term:oral communication !Index_Term:oral !Index_Term:writing skills, developing effective !Index_Term:writing classes, taking !Index_Term:essay writing !Index_Term:editing !Index_Term:university writing !Index Term:lecture notes, taking !Index_Term:letters, writing !Index_Term:summaries, writing !Index_Term:reading, importance of !Index_Term:word processing, learning !Index_Term:developing effective skills !Index Term:interpersonal !Index_Term:interpersonal communications



!Index_Term:informal conversations !Index_Term:conversations, informal !Index_Term:formal meetings !Index_Term:meetings !Index_Term:formal !Index_Term:group meetings !Index_Term:group !Index_Term:interviews !Index_Term:psychology course, importance of !Index_Term:course, importance of !Index_Term:engineering student organizations !Index Term:university committees !Index_Term:student representative !Index_Term:formal presentations !Index_Term:presentations !Title:Communication Skills !SGML_Char_Cnt:19773 !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib First Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta SECTION:0130808598.10.03.00 !Filename:0130808598.10.03.00.sgm !CDAOID:AABQHKX0 !Index_Term:creativity, developing your !Index_Term:skills !Index_Term:developing !Index_Term:creativity !Index Term:brainstorming !Title:Developing Your Creativity !SGML_Char_Cnt:4143 !PE ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib Last Name: Schiavone Contrib Affiliation:University of Alberta FRONT_AND_BACK_ELEMENT:0130808598.10.04.00 !Filename:0130808598.10.04.00.sgm !CDAOID:AABQHKY0



```
!Role:CH.END
       !Title:Problems
       !Index_Term:skills
       !Index_Term:developing
       !SGML_Char_Cnt:4078
       !PE ID:FE
       !Yr_of_Pub:1999
       !Instr_Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib Group
               Contrib_First_Name:Peter
               Contrib Last Name:Schiavone
               Contrib_Affiliation:University of Alberta
CHAPTER.C:0130808598.11.00.00
```

!SKU:000000014694

!Status:0

!Title:Looking to the Future: What's after Graduation?

!Authored_Abstract:Our discussion so far has been concerned with maximizing performance in engineering study. The ultimate goal has been the successful completion of your undergraduate degree in engineering, the foundation of your engineering education. Upon completing your degree, you will have a variety of options for what to do next. Basically, the choice comes down to one of the following two possibilities:

!Authored_Abstract:Go to work as a practicing engineer.Continue your study towards a graduate degree.

```
!Authored_Abstract:In this chapter, we will take a brief look at both options.
!PE ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
       Contrib_First_Name:Peter
ļ
       Contrib_Last_Name:Schiavone
!
       Contrib_Affiliation:University of Alberta
       FRONT AND BACK ELEMENT:0130808598.11.01.00
       !Filename:0130808598.11.01.00.sgm
       !CDAOID:AABQHKZ0
       !Role:CH.BEGIN
       !Index_Term:future, preparing for
       !Title:Sections/Objectives
       !SGML_Char Cnt:989
       !PE_ID:FE
       !Yr_of_Pub:1999
       !Instr_Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
```





!Page_Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib Last Name: Schiavone ļ Contrib_Affiliation:University of Alberta ļ SECTION:0130808598.11.02.00 !Filename:0130808598.11.02.00.sgm !CDAOID:AABQHLA0 !Index_Term:working as an engineer !Index_Term:engineer !Index_Term:working as !Index_Term:private sector, working in !Index Term:consulting engineer !Index_Term:project management, working in !Index_Term:teaching !Index_Term:engineering !Index_Term:public sector, working in !Index_Term:working overseas !Index_Term:resume, preparing an excellent !Index_Term:curriculum vitae (CV) !Index_Term:interviews !Index_Term:preparing for !Title:Going to Work as a Practicing Engineer !SGML_Char_Cnt:7566 !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper !Status:0 !Page Count:0 !Created_By:BARKER !Contrib_Group Contrib_First_Name:Peter Contrib_Last_Name:Schiavone Contrib_Affiliation:University of Alberta SECTION:0130808598.11.03.00 !Filename:0130808598.11.03.00.sgm !CDAOID:AABQHLB0 !Index_Term:graduate degree studies !Index_Term:engineering !Index_Term:Master-of-Science Degree (M.S.) !Index_Term:Doctoral Degree (Ph.D.) !Index_Term:money matters !Title:Continuing Your Studies Towards a Graduate Degree !SGML_Char_Cnt:5150 !PE_ID:FE !Yr_of_Pub:1999 !Instr_Only:N !Edition:01 !Revision:00 !Pub_Med_Type:Paper

!Status:0 !Page_Count:0

ļ

!

!

Contrib_First_Name:Peter

Contrib Last Name:Schiavone

Contrib_Affiliation:University of Alberta





```
!Created By:BARKER
       !Contrib_Group
              Contrib_First_Name:Peter
              Contrib_Last_Name:Schiavone
              Contrib_Affiliation:University of Alberta
       FRONT_AND_BACK_ELEMENT:0130808598.11.04.00
       !Filename:0130808598.11.04.00.sgm
       !CDAOID:AABQHLC0
       !Role:CH.END
       !Title:Problems
       !Index_Term:future, preparing for
       !SGML_Char_Cnt:2071
       IPE ID:FE
       !Yr_of_Pub:1999
       !Instr_Only:N
       !Edition:01
       !Revision:00
       !Pub_Med_Type:Paper
       !Status:0
       !Page_Count:0
       !Created_By:BARKER
       !Contrib_Group
              Contrib_First_Name:Peter
              Contrib_Last_Name:Schiavone
              Contrib_Affiliation:University of Alberta
FRONT AND BACK ELEMENT:0130808598.12.01.00
!Filename:0130808598.12.01.00.sgm
!CDAOID:AABQHLD0
!SGML_Char_Cnt:12124
!Title:Index
!PE_ID:FE
!Yr_of_Pub:1999
!Instr_Only:N
!Edition:01
!Revision:00
!Pub_Med_Type:Paper
!Status:0
!Page_Count:0
!Created_By:BARKER
!Contrib_Group
```